

REMARKS

Claims 1, 3-6 and 10-20 were pending in the above-referenced application as of the October 28, 2004 mailing date of the current office action, and stood rejected pursuant to one or more of 35 U.S.C. §§102, 103 and §112.

Applicants respectfully traverse these rejections, which Applicants submit are overcome, rendered moot or demonstrated to be inappropriate in view of at least the amendments above and/or the remarks that follow.

As indicated above, claim 3 is canceled herein; its features have been incorporated into claim 1, and into claim 19 as well. Also, the dependency of claim 4 has been switched from claim 3 to claim 1.

Applicants note for the record that claims 1 and 19 are amended herein and claim 3 is canceled herein solely to expedite allowance of this application. By amending claims 1 and 19 and canceling claim 3, Applicants do not dedicate the subject matter of these claims - as filed and/or as previously pending - to the public and do not acquiesce to the Examiner's current or previous rejection(s) of these claims, or to the reason(s) offered by the Examiner in support of such rejection(s). Applicants also respectfully reserve the right to seek patent protection for claims that are similar and/or identical to claims 1, 3 and 19 - as originally filed or as previously pending - in one or more related applications.

Claim Rejections - 35 U.S.C. §112

The Examiner rejects claims 3-6 pursuant to 35 U.S.C. §112, second paragraph because claim 3 depends from itself and because claims 4-6 depend either directly or ultimately from claim 3. Applicants submit that this rejection is overcome, and thus should be withdrawn, in view of the claim amendments and cancellations set forth above. Specifically, claim 3 has been canceled herein and its features have been incorporated via amendment into claim 1. Additionally, claim 4 has been amended to depend from claim 1, and each of claims 5 and 6 remains dependent on claim 4.

Claim Rejections - 35 U.S.C. §102 and 35 U.S.C. §103

In the current office action, the Examiner has repeated the rejections of claim 1 and claim 19 pursuant to 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,787,749 to Ban et al. ("the Ban patent"). Also, claims 10-18 and 20 are rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over the Ban patent in view of previously cited Japanese Patent Publication No. 07-294220 to Shigeki et al. ("the Shigeki publication"). Lastly, claims 3-6 are rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over the combination of three references -- the Ban patent, the Shigeki publication, and Japanese Patent Publication No. 61-165608 to Aritoshi ("the Aritoshi publication"). Applicants submit that these cited references do not disclose or suggest the features of claims 1 and 19. Moreover, the Examiner has failed to establish a *prima facie* case of obviousness in rejecting claim 3.

As noted above, independent claims 1 and 19 have been amended herein to incorporate the features of claim 3, which had recited that the first optical fiber is a branch type fiber that both guides light from a light source to a plurality of sites on a substrate and receives light reflected from the plurality of sites, and which had further recited that a shutter selectively blocks the plurality of reflected light received by the branch type first optical fiber.

In rejecting claim 3 in the current office action, the Examiner cites to a total of *three* references -- the Ban patent and the Shigeki publication "as applied to claims 10, 17, 18 and 20," and, additionally, to the Aritoshi publication. The Examiner then asserts that the combination of these references renders claim 3 obvious. The Examiner makes various allegations regarding these three references, namely that:

- figure 3A of the Ban patent depicts a film thickness system comprising a light source, at least one input and one output optical fiber normal to the thin film, a detector and a computer, wherein, as shown in figure 7B, a plurality of output fibers can be arranged around the input fiber
- the Shigeki publication (see figure 1) teaches a light source, an optical fiber normal to the thin film, an output fiber, a spectroscope, a detector, and a processor, and
- the Aritoshi publication (see figure 1) teaches a thin film thickness system comprising a light source, a spectroscope, a chopper, a plurality of input and output fibers, a plurality of photodetectors, a data buffer that acts as a controller to transfer each wavelength successively, and a computing device

By basing the rejection of claim 3 on the rejections of other claims, the Examiner is incorporating at least the following assumptions:

- with regard to claims 10 and 20, that it would have been obvious to one of ordinary skill in the art to modify the apparatus described in the Ban patent by placing the spectroscope between the output fibers and detector, as taught by the Shigeki publication, instead of between the source and input fiber, and
- with regard to claim 18, that it would have been obvious to one of ordinary skill in the art to locate the light receiving unit in any operable position

Lastly, in rejecting claim 3, the Examiner specifically asserts that it would have been obvious to one of ordinary skill in the art to "*further* modify" the apparatus described in the Ban patent to use a plurality of fibers in order to measure film thickness at all desired points on the substrate, and further asserts that the means for selecting which output point to process would have been a mere matter of design choice between functional equivalents such as the data buffer described in the Aritoshi publication, electrically gating each detector, or shuttering the input or output light, the chopper of Aritoshi (emphasis added).

In short, to justify the rejection of claim 3 the Examiner contends that it is necessary not just to modify the Ban patent once, but to "*further* modify" (emphasis added) it as the Examiner described, and that doing so would have been obvious to one of ordinary skill in the art at the time of invention of the subject matter of claim 3.

Therefore, the Examiner's rejection of claim 3 is based not only on citations of *three* references, but also multiple layers of assumptions regarding what would have been obvious to one of ordinary skill in the art at the time of invention of the subject matter of claim 3. In view of this justification for and explanation of the rejection of claim 3, Applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 3, the features of which are now incorporated into claims 1 and 19.

In particular, the Examiner has not pointed to the requisite suggestion or motivation -- to one of ordinary skill in the art at the time of invention of the subject matter of pending claims -- to produce the invention described in claim 3. Instead, the Examiner has simply picked and chosen references that describe devices and processes that resemble those recited in claim 3, but has not adequately explained how such references would have prompted one of ordinary skill in the art to produce the claimed invention.

Moreover, the Examiner acknowledges that the combination of these three references falls short of describing the features of claim 3, and that multiple modifications to the devices described in these references would be required. By basing the rejection of claim 3 on such an analysis, it is unmistakably clear that the Examiner's conclusions have been influenced by hindsight in which the teachings of the specification of the present application have improperly factored into the Examiner's consideration.

Such an approach has always been expressly proscribed by the Court of Appeals for the Federal Circuit ("CAFC"), as indicated, for example, by *Interconnect Planning Corp. v. Feil*, 227 USPQ 543,551 (Fed. Cir. 1985), which held that one cannot select separate components of an invention from the prior art for combination with the blueprint supplied by the inventor to support a rejection pursuant to 35 U.S.C. §103, and which further held that when prior art references are combined to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. These sentiments were echoed in the CAFC case of *Crown Operations International Ltd. v. Solutia Inc.*, 62 USPQ2d 1917, 1922 (Fed. Cir. 2002), in which the court cited to several of its earlier decisions in order to emphasize that:

"[d]etermination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention." *ATD Corp. v. Lydall, Inc.*, 48 USPQ2d 1321, 1329 (Fed Cir. 1998). There must be a teaching or suggestion within the prior art, within the nature of the problem to be solved, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources, to select particular elements, and to combine them as combined by the inventor. See *Ruiz v. A.B. Chance Co.*, 57 USPQ2d 1161, 1167 (Fed. Cir. 2000); *ATD Corp*, 48 USPQ2d at 1329; *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 30 USPQ2d 1377, 1379 (Fed. Cir. 1994) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination.").

These cases underscore that there must be a suggestion or motivation to combine references in order to support a rejection based on 35 U.S.C. §103(a), and that the suggestion or motivation must not be influenced by hindsight that is based, for example, on the teachings contained within the specification of the application being examined.

Yet, such a hindsight-tinged analysis is exactly what has occurred here. The Examiner has retroactively attempted to assemble the features of claim 3 - now incorporated into claims 1 and 19 - through both a series of citations to general language in various references *and* a number of layered assumptions about what allegedly would have been obvious to one of ordinary skill in the art. But as noted above, this is not an acceptable practice, and, accordingly, any rejection based thereupon is improper and must be withdrawn. For at least this reason, claim 1 and claim 19 are believed to be patentable.

Moreover, Applicants further submit that the film thickness measurement apparatus of claim 1 and the film thickness measurement method of claim 19 are patentable over any proper combination of the cited references, and, due at least in part to the patentable difference(s), provide highly beneficial and advantageous film thickness measurement equipment and techniques.

Also, because claim 1 and claim 19 are patentable, so too are claims 4-6 and 10-20, each which depends from and thus incorporates the patentable features of one or more of claims 1 and 19.

In view of at least the amendments and/or remarks herein, claims 1, 4-6 and 10-20 of this application are believed to be in condition for allowance. Reconsideration and allowance of these claims are respectfully requested.

If the undersigned can be of any assistance in advancing the prosecution of this case, the Examiner is invited to contact him through the information given below.

Respectfully submitted,

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